

High energy polarising laser line beamsplitter cubes

Knight Optical's range of polarising high energy laser line beamsplitter cubes are designed for key laser applications in the visible and NIR spectrums and offer a superior laser damage threshold for high power systems.

Our polarising laser line beamsplitters separate randomly polarised light into its S and P components. P-polarised light is transmitted through the cube and S-polarised light is reflected with a high quality 1000:1 extinction ratio $T_p:T_s$ for the transmitted beam. As the beamsplitter coating is only applied to a single internal surface the cube must be properly aligned in the system for best results. All Knight Optical's laser line beamsplitter cubes are constructed using two high specification right angled prisms and are clearly marked to indicate the preferred beam direction.

The most frequently requested specifications for laser beamsplitters are as follows:

Dimensions	5mm to 50mm
Wavelength	355nm to 1550nm
Material	Fused Silica
Wavelength tolerance	+/- 10nm
Dimension tolerance	+0.0/-0.1mm
Surface flatness	$\lambda/10$ @ 633nm
Wavefront distortion	$\lambda/4$ @ 633nm
Surface quality	20/10
Clear aperture	>80%
Extinction ratio	$T_p:T_s > 1000:1$
Transmission efficiency	$T_p > 97\%$
Reflection efficiency	$R_s > 99.5\%$
Transmitted beam deviation	<5 arcmin
Reflected beam deviation	$90^\circ \pm 5$ arcmin
Laser damage threshold, pulsed (10ns)	$>15\text{J}/\text{cm}^2@1064\text{nm};$
Broadband AR-coating on both input and output faces	$R_{\text{avg}} < 0,2\%$ at 0° AOI at the specified Center-Wavelength

Our capabilities are always expanding so if your requirements are not met above please enquire as we have many years of experience in this field.

Contact our multilingual technical sale team and discover how Knight Optical's high quality laser line cube beamsplitter capabilities and service can improve your instrumentation and supply chain experience.